

BEST AVAILABLE COPY

JAN 30 2007

AMENDMENTS TO THE CLAIMS

Claims 1, 3-10, and 17-79 are pending. Claims 1, 32, 35-38, 51-52, and 63-64 are amended. Claims 2 and 11-16 were cancelled without prejudice or disclaimer, and claims 80-83 were withdrawn from consideration. The remaining claims are unchanged.

The full text of the presently pending claims is set forth in the Listing of Claims below. This Listing of Claims is intended to replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1 1. (Currently Amended) A method for routing ~~application-level~~ messages from one or more
2 sending services to one or more recipient services across a message interchange network, said
3 message interchange network being built on an open platform overlaying a public network,
4 wherein at least some of the one or more sending services and the one or more recipient services
5 are managed by different organizational entities, and wherein each sending service and recipient
6 service is accessible according to properties and permissions associated with each of the sending
7 services and recipient services, comprising:
 - 8 (a) receiving ~~an application-level~~ a message from a sending service, said ~~application-~~
9 ~~level~~ message including a header element and at least one of: a body element including one or
10 more documents that a sending service is sending to a recipient service, and an attachment
11 including one or more documents that a sending service is sending to a recipient service;
 - 12 (b) determining a route path for delivery of said ~~application-level~~ message to said one or
13 more recipient services, said route path including one or more in-transit services, wherein said
14 determining being based on one or more of: ~~a reference to a service identified in said header~~
15 ~~element~~, a routing script defined by a sending service, a routing script defined by a recipient
16 service, and a routing script defined by an in-transit service, such that each service is capable
17 of independently affecting said determining of said route path; and
 - 18 (c) delivering said message to an in-transit service in said route path, wherein said in-
19 transit service performs an identifiable operation on said message as said message travels from a
20 sending service to a recipient service, the identifiable operation altering the content of the
21 message to ensure that the message has the proper format for the recipient service.

BEST AVAILABLE COPY

1 2. (Cancelled)

1 3. (Previously Presented) The message routing method of claim 1, wherein said header
2 element is an extensible markup language header element.

1 4. (Previously Presented) The message routing method of claim 1, wherein said one or more
2 documents in said body element and said one or more documents in said attachment can
3 accommodate any type of data.

1 5. (Original) The message routing method of claim 4, wherein said data includes extensible
2 markup language data.

1 6. (Original) The message routing method of claim 4, wherein said data includes text data.

1 7. (Original) The message routing method of claim 4, wherein said data includes binary data.

1 8. (Previously Presented) The message routing method of claim 1, wherein said message
2 further includes routing and route trace elements.

1 9. (Original) The message routing method of claim 1, wherein said receiving is based on the
2 Simple Object Access Protocol.

1 10. (Original) The message routing method of claim 1, wherein said receiving includes
2 receiving said message from a party that sends said message on behalf of a sender.

1 11. (Cancelled)

1 12. (Canceled)

1 13. (Canceled)

1 14. (Canceled)

1 15. (Canceled)

BEST AVAILABLE COPY

1 16. (Canceled)

1 17. (Previously Presented) The message routing method of claim 1, wherein said determining
2 is recursive.

1 18. (Previously Presented) The message routing method of claim 1, wherein said determining
2 occurs prior to physical delivery of said message.

1 19. (Previously Presented) The message routing method of claim 1, wherein said determining
2 occurs dynamically during logical and physical delivery of said message.

1 20. (Previously Presented) The message routing method of claim 1, wherein a routing script
2 defines a procedure that determines an existence of one or more attributes of the message.

1 21. (Previously Presented) The message routing method of claim 1, wherein a routing script
2 defines a procedure based on pattern matching.

1 22. (Previously Presented) The message routing method of claim 1, wherein a routing script
2 defines a procedure that compares one or more attributes of a message to a reference value.

1 23. (Previously Presented) The message routing method of claim 1, wherein a routing script is
2 based on a routing rule, said routing rule including a condition and one or more actions.

1 24. (Original) The message routing method of claim 23, wherein said condition is one of an
2 equals, not-equals, equals-one-of, less-than, greater-than, and exists operators.

1 25. (Original) The message routing method of claim 23, wherein said condition is a
2 combination of one or more conditions.

1 26. (Original) The message routing method of claim 25, wherein said one or more conditions
2 are combined using one or more of an AND, OR, XOR, and NOT operators.

1 27. (Original) The message routing method of claim 1, wherein said delivering includes
2 pushing said message to said in-transit service.

BEST AVAILABLE COPY

1 28. (Original) The message routing method of claim 1, wherein said delivering includes
2 delivering said message upon a polling action by said in-transit service.

1 29. (Original) The message routing method of claim 1, wherein said delivering includes
2 delivering said message to said in-transit service for one of a data transformation operation, an
3 enrichment operation, a cross-reference ID mapping operation, a filtering operation, and a credit
4 scoring operation.

1 30. (Original) The message routing method of claim 1, further comprising logging usage,
2 status, and billing information after processing said message.

1 31. (Original) The message routing method of claim 1, further comprising delivering said
2 message to said recipient service after said message has been routed to all in-transit services in
3 said route path.

1 32. (Currently Amended) A message routing system, comprising:
2 a message routing network built on an open platform overlaying a public network, said
3 message routing network enabling routing of ~~application-level~~ messages between a sending
4 service and one or more recipient services, wherein at least some of the one or more sending
5 services and the one or more recipient services are managed by different organizational entities,
6 said message routing network further enabling inclusion of a plurality of in-transit services into
7 said message routing network, wherein an in-transit service can be selectively included in a
8 routing for a message based upon an identifiable type of processing that said in-transit service
9 can perform on said message, a route path defining delivery of said message to said one or more
10 recipient services, said route path including one or more of the in-transit services, said route path
11 determined based on one or more of: ~~a reference to a service identified in a header element of~~
12 ~~a message~~, a routing script defined by a sending service, a routing script defined by a recipient
13 service, and a routing script defined by an in-transit service, such that each service is capable
14 of independently affecting said determining of said route path.

1 33. (Original) The message routing system of claim 32, wherein said in-transit service
2 performs one of a data transformation operation, an enrichment operation, a cross-reference ID
3 mapping operation, a filtering operation, and a credit scoring operation.

BEST AVAILABLE COPY

1 34. (Original) The message routing system of claim 32, wherein an in-transit service is
2 included in said routing based on a routing script.

1 35. (Currently Amended) The message routing system of claim 34, wherein said ~~routing~~
2 ~~script~~ route path is defined by a the sending service.

1 36. (Currently Amended) The message routing system of claim 34, wherein said ~~routing~~
2 ~~script~~ route path is defined by a the recipient service.

1 37. (Currently Amended) The message routing system of claim 34, wherein said ~~routing~~
2 ~~script~~ route path is defined by a the in-transit service.

1 38. (Currently Amended) The message routing system of claim 34, wherein said ~~routing~~ route
2 path is defined by a the sending service, a the recipient service, and ~~at least one~~ the in-transit
3 service.

1 39. (Original) The message routing system of claim 34, wherein said routing is determined
2 recursively.

1 40. (Original) The message routing system of claim 34, wherein said routing is determined
2 prior to physical delivery of said message.

1 41. (Original) The message routing system of claim 34, wherein said routing is determined
2 during logical and physical delivery of said message.

1 42. (Original) The message routing system of claim 34, wherein a routing script defines a
2 procedure that determines an existence of one or more attributes of the message.

1 43. (Original) The message routing system of claim 34, wherein a routing script defines a
2 procedure based on pattern matching.

1 44. (Original) The message routing system of claim 34, wherein a routing script defines a
2 procedure that compares one or more attributes of a message to a reference value.

1 45. (Original) The message routing system of claim 34, wherein a routing script is based on a

BEST AVAILABLE COPY

2 routing rule, said routing rule including a condition and one or more actions.

1 46. (Original) The message routing system of claim 45, wherein said condition is one of an
2 equals, not-equals, equals-one-of, less-than, greater-than, and exists operators.

1 47. (Original) The message routing system of claim 45, wherein said condition is a
2 combination of one or more conditions.

1 48. (Original) The message routing system of claim 47, wherein said one or more conditions
2 are combined using one or more of an AND, OR, XOR, and NOT operators.

1 49. (Original) The message routing system of claim 32, wherein said message routing network
2 provides a transport level messaging service.

1 50. (Original) The message routing system of claim 32, wherein said message is delivered to
2 said recipient service after said message has been routed to all in-transit services in said route
3 path.

1 51. (Currently Amended) A computer program product, stored on a machine-readable
2 medium, for routing ~~application-level~~ messages from one or more sending services to one or
3 more recipient services across a message interchange network, said message interchange network
4 being built on an open platform overlaying a public network, wherein at least some of the one or
5 more sending services and the one or more recipient services are managed by different
6 organizational entities, and wherein each sending service and recipient service is accessible
7 according to properties and permissions associated with each of the sending services and
8 recipient services, comprising instructions operable to cause a computer to:
9 receive ~~an application-level~~ a message from a sending service, said ~~application-level~~
10 message including a header element and at least one of: a body element including one or more
11 documents that a sending service is sending to a recipient service, and an attachment including
12 one or more documents that a sending service is sending to a recipient service;
13 determine a route path for delivery of said ~~application-level~~ message to said one or more
14 recipient services, said route path including one or more in-transit services, wherein said
15 determining being based on one or more of: ~~a reference to a service identified in said header~~
16 ~~element~~, a routing script defined by a sending service, a routing script defined by a recipient

BEST AVAILABLE COPY

17 service, and a routing script defined by an in-transit service, such that each service is capable
18 of independently affecting said determining of said route path; and
19 deliver said message to an in-transit service in said route path, wherein said in-transit
20 service has been created to perform an identifiable operation on said message as said message
21 travels from a sending service to a recipient service, the identifiable operation altering the
22 content of the message to ensure that the message has the proper format for the recipient service.

1 52. (Currently Amended) A message routing network method, comprising:

2 (a) receiving a registration request from a service for inclusion in a message routing
3 network, said message routing network being built on an open platform overlaying a public
4 network, said service being operative to provide a data operation according to properties and
5 permissions associated with said service;

6 (b) including said service in a directory of services, said directory of services enabling
7 users of said message routing network to define at least a portion of a desired data processing on
8 ~~an application level~~ a message; and

9 (c) determining a route path for delivery of a message to one or more recipient services,
10 said route path including one or more in-transit services, said determining being based on one or
11 more of: ~~a reference to a service identified in a header element~~, a routing script defined by a
12 sending service, a routing script defined by a recipient service, and a routing script defined by an
13 in-transit service, such that each service is capable of independently affecting said
14 determining of said route path.

1 53. (Original) The message routing network method of claim 52, wherein said service
2 provides a data transformation service.

1 54. (Original) The message routing network method of claim 52, wherein said service
2 provides a data enrichment service.

1 55. (Original) The message routing network method of claim 52, wherein said service
2 provides a cross-reference service.

1 56. (Original) The message routing network method of claim 52, wherein said service
2 provides a filtering service.

BEST AVAILABLE COPY

1 57. (Original) The message routing network method of claim 52, wherein said service
2 provides a credit scoring service.

1 58. (Original) The message routing network method of claim 52, wherein a service is selected
2 from said directory of services by a sending service.

1 59. (Original) The message routing network method of claim 52, wherein a service is selected
2 from said directory of services by a recipient service.

1 60. (Original) The message routing network method of claim 52, wherein a service is selected
2 from said directory of service engines by an in-transit service.

1 61. (Original) The message routing network method of claim 52, further comprising storing a
2 script defined by one of a sending service, a recipient service, and an in-transit service, said
3 script mapping an invocation of a first service to an invocation of a second service, wherein
4 contexts of said invocations are managed by said message routing network.

1 62. (Original) The message routing network method of claim 61, wherein said script defines a
2 procedure for enabling determination of at least part of a routing of a message between services.

1 63. (Currently Amended) A computer program product, stored on a machine-readable
2 medium, comprising instructions operable to cause a computer to:
3 receive a registration request from a service for inclusion in a message routing network,
4 said message routing network being built on an open platform overlaying a public network, said
5 service being operative to provide a data operation according to properties and permissions
6 associated with said service;
7 include said service in a directory of services, said directory of services enabling users of
8 said message routing network to define at least a portion of a desired data processing on ~~an~~
9 ~~application-level~~ a message; and
10 determine a route path for delivery of a message to one or more recipient services, said
11 route path including one or more in-transit services, said determining being based on one or more
12 of: ~~a reference to a service identified in a header element~~, a routing script defined by a
13 sending service, a routing script defined by a recipient service, and a routing script defined by an
14 in-transit service, such that each service is capable of independently affecting said

BEST AVAILABLE COPY**15 determining of said route path.**

1 64. (Currently Amended) A message routing system, comprising:
2 a message routing network having an interface that enables a plurality of services to post
3 ~~application-level~~ messages to and receive ~~application-level~~ messages from said message
4 routing network, said message routing network being built on an open platform overlaying a
5 public network, wherein at least some of the one or more sending services and the one or more
6 recipient services are managed by different organizational entities, and wherein each sending
7 service and recipient service is accessible according to properties and permissions associated
8 with each of the sending services and recipient services, at least a portion of said plurality of
9 services providing a menu of data operations that can be selectively applied to ~~an application-~~
10 ~~level~~ a message traversing said message routing network, a route path defining delivery of a
11 message to said one or more recipient services, said route path including one or more in-transit
12 services, said route path determined based on one or more of: ~~a reference to a service identified~~
13 ~~in a header element of a message~~, a routing script defined by a sending service, a routing script
14 defined by a recipient service, and a routing script defined by an in-transit service, such that
15 each service is capable of independently affecting said determining of said route path.

1 65. (Original) The message routing system of claim 64, wherein said message routing network
2 provides a transport level messaging service.

1 66. (Original) The message routing system of claim 65, wherein said message routing network
2 is implemented on a public network.

1 67. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a data transformation service.

1 68. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a data enrichment service.

1 69. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a cross-reference service.

1 70. (Original) The message routing system of claim 64, wherein said plurality of services

BEST AVAILABLE COPY

2 includes a service that provides a filtering service.

1 71. (Original) The message routing system of claim 64, wherein said plurality of services
2 includes a service that provides a credit scoring service.

1 72. (Original) The message routing system of claim 64, wherein a service is selected by a
2 sending service.

1 73. (Original) The message routing system of claim 64, wherein a service is selected by a
2 recipient service.

1 74. (Original) The message routing system of claim 64, wherein a service is selected by an in-
2 transit service.

1 75. (Original) The message routing system of claim 64, wherein said interface uses the Simple
2 Object Access Protocol.

1 76. (Original) The message routing system of claim 64, wherein a service is selectively
2 applied based on a routing script.

1 77. (Original) The message routing system of claim 76, wherein said routing script maps an
2 invocation of a first service to an invocation of a second service, wherein contexts of said
3 invocations are managed by said message routing network.

1 78. (Original) The message routing system of claim 76, wherein said script defines a
2 procedure for enabling determination of at least part of a routing of a message between services.

1 79. (Original) The message routing system of claim 76, wherein said routing script is defined
2 by one of a sending service, a recipient service, and an in-transit service.

1 80. (Withdrawn) A message routing system, comprising:
2 a message routing network that enables message routing between a plurality of services,
3 wherein each service provides a data operation that is applied to a message traversing said
4 routing, wherein said message routing network generates a bill for at least part of said message
5 routing based on usage of individual services.

BEST AVAILABLE COPY

1 81. (Withdrawn) The message routing system of claim 80, wherein said bill is generated
2 through an analysis of invocations of said plurality of services.

1 82. (Withdrawn) The message routing system of claim 80, wherein said bill is based on
2 message size.

1 83. (Withdrawn) The message routing system of claim 80, wherein said bill is determined on
2 a per transaction basis.